AMENDMENTS TO THE CLAIMS:

Complete Listing of Claims

1. (Original) A method for charging a battery using a battery charger interface, the method comprising:

generating an analog measurement signal corresponding to one or more parameters of the battery;

converting the analog measurement signal into digital data;

comparing the digital data with a digital reference corresponding to a predetermined duty cycle of a battery charger; and

based on the comparison, generating a pulse width modulation sequence according to a functional mode of the battery charger interface.

2. (Original) A method according to claim 1, wherein the pulse width modulation sequence corresponds to a charging duty cycle of the battery charger.

3. (Original) A method according to claim 1, wherein one of the one or more parameters is the battery voltage.

4. (Original) A method according to claim 1, wherein one of the one or more parameters is the battery current.

5. (Original) A method according to claim 2, wherein the one or more parameters of the battery are measured using one of a current loop or a voltage loop.

6. (Original) A method according to claim 5, wherein the functional mode of the battery charger interface is a pulse mode.

7. (Original) A method according to claim 6, further comprising:

adjusting an RC rise time of one or more pulses of the pulse width modulation sequence; and

charging the battery according to the charging duty cycle, wherein the RC rise time of the pulse width modulation sequence is adjusted according to an input requirement of the battery.

8. (Original) A method according to claim 5, wherein the functional mode of the battery charger interface is a linear mode.

9. (Original) A method according to claim 8, further comprising:

filtering the pulse width modulation sequence to generate an averaged DC signal;

using the averaged DC signal to generate a regulated charging current from the battery charger; and

charging the battery according to the charging duty cycle, wherein the battery is charged using the regulated charging current.

10. (Original) A method according to claim 1, further comprising:

filtering the digital data.

11. (Original) A method according to claim 1, wherein the one or more parameters are measured using a differential analog input.

12. (Original) A method according to claim 1, wherein the digital reference is predetermined.

13. (Original) A method according to claim 1, wherein the digital reference is dynamically determined.

14. (Original) A method according to claim 1, wherein the analog measurement signal is converted into the digital data using a sigma-delta modulation.

15. (Original) An architecture for a battery charger interface comprising:

a battery parameter measurement element configured to measure analog measurement signals corresponding to one or more parameters of a battery;

an analog-to-digital converter coupled to the battery parameter measurement element and configured to convert the analog measurement signals into digital data; and

a pulse width modulation sequence generator coupled to the analog-to-digital converter and configured to:

compare the digital data with a digital reference corresponding to a duty cycle of a charging current for the battery; and

based on the comparison, generate a pulse width modulation sequence according to a functional mode of the battery charger interface.

16. (Original) An architecture according to claim 15, further comprising:

a battery charger coupled to the battery and configured to generate the charging current; and

a digital reference unit coupled to the analog-to-digital converter and configured to generate the digital reference.

17. (Original) An architecture according to claim 15, further comprising:

a digital filter coupled to the analog-to-digital converter and configured to filter the digital data.

18. (Original) An architecture according to claim 16, further comprising:

a slope controller coupled to the pulse width modulation sequence generator and configured to adjust an RC rise time of one or more pulses of the pulse width modulation sequence; and

a charger controller coupled to the battery charger and configured to control the charging current of the battery charger, wherein the RC rise time of the pulse width modulation sequence is adjusted according to an input requirement of the battery.

19. (Original) An architecture according to claim 15, wherein the one or more parameters are measured using one of a current loop or a voltage loop.

20. (Original) An architecture according to claim 19, wherein the functional mode of the battery charger interface is a pulse mode.

21. (Original) An architecture according to claim 19, wherein the functional mode of the battery charger interface is a linear mode.

22. (Original) An architecture according to claim 21, wherein the slope controller is further configured to

filter the pulse width modulation sequence to generate an averaged DC signal.

23. (Original) An architecture according to claim 15, wherein the analog measurement signals are measured using a differential analog input.

24. (Original) An architecture according to claim 15, wherein one of the one or more parameters is the battery voltage.

25. (Original) An architecture according to claim 15, wherein one of the one or more parameters is the battery current.

26. (Original) An architecture according to claim 15, wherein the digital reference is predetermined.

27. (Original) An architecture according to claim 15, wherein the digital reference is dynamically determined.

28. (Original) An architecture according to claim 15, wherein the analog measurement signals are converted into the digital data using a sigma-delta modulation.